CLAIMS

1. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide is an SOD-like polypeptide, has a molecular weight of 25 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 1: or an immunogenic fragment of said polypeptide capable of inducing an immune response against said polypeptide.

2. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide is a peroxidoxin-like polypeptide, has a molecular weight of 22 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 2:, or an immunogenic fragment of said polypeptide capable of inducing an immune response against said polypeptide.

3. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide is a peroxidoxin-like polypeptide, has a molecular weight of 25 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 3:, or an immunogenic fragment of said polypeptide capable of inducing an immune response against said polypeptide.

4. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide has a molecular weight of 22 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 4:, or an immunogenic fragment of said polypeptide capable of inducing an immune response against said polypeptide.

5. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide is a triosephosphate isomerase-like polypeptide, has a molecular weight of 28 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 5:, or an immunogenic fragment of said

polypeptide capable of inducing an immune response against said polypeptide.

6. Hydrophilic polypeptide of *Eimeria* characterised in that said polypeptide is a polypeptide that has a molecular weight of 28 kD and comprises an amino acid sequence that shares at least 70 % homology with the amino acid sequence as shown in SEQ ID NO: 6:, or an immunogenic fragment of said polypeptide capable of inducing an immune response against said polypeptide.

7. Hydrophilic polypeptide of *Eimeria* according to claims 1-6, characterised in that the homology is 100%.

8. Hydrophilic polypeptide according to claims 1-7, characterised in that the *Eimeria* is *Eimeria tenella*.

9. DNA fragment comprising a nucleotide sequence encoding a hydrophilic polypeptide or an immunogenic fragment of said polypeptide, according to claims 1-8.

10. DNA fragment according to claim 9, characterised in that it comprises a nucleic acid sequence as depicted in SEQ ID NO: 39: or a fragment thereof

11.DNA fragment according to claim 9, characterised in that it comprises a nucleic acid sequence as depicted in SEQ ID NO: 40: or a fragment thereof

12.DNA fragment according to claim 9, characterised in that it comprises a nucleic acid sequence as depicted in SEQ ID NO: 41: or a fragment thereof

13. Recombinant DNA molecule comprising a DNA fragment according to claims 9-12.

14. Live recombinant carrier comprising a DNA fragment according to claims 9-12 or a recombinant DNA molecule according to claim 13.

15. Host cell comprising a DNA fragment according to claims 9-12, a recombinant DNA molecule according to claim 13 or a live recombinant carrier according to claim 14.

16. Vaccine capable of protecting poultry against *Eimeria* infection, characterised in that it comprises a hydrophilic polypeptide according to claims 1-8, a DNA fragment according to claims 9-12, a Recombinant DNA fragment according to claim 13, a live recombinant carrier according to claim 14 or a host cell according to claim 15 and a pharmaceutically acceptable carrier.

17. Vaccine according to claim 16, characterised in that it additionally comprises an adjuvant.

18. Vaccine according to claim 16 or 17, characterised in that it comprises an additional immunogen derived from a poultry pathogenic virus or micro-organism.

19. Vaccine according to claim 18, characterised in that the immunogen is selected from the group of poultry pathogenic viruses or micro-organisms consisting of Marek's Disease virus (MDV), Newcastle Disease virus (NDV), Infectious Bronchitis virus (IBV), Chicken Anaemia Agent (CAA), Reo virus, Avian Retro virus, Fowl Adeno virus, Turkey Rhinotracheitis virus, *Salmonella* spp. or *E. Coli.*

20. Vaccine according to claims 16-19, characterised in that it is in a freeze-dried form.

21. An antibody raised against a polypeptide according to claims 1-8.

22. Method for the preparation of antibodies against a polypeptide according to claims 1-8, characterised in that said method comprises administering said polypeptide to a suitable animal.

23. Method for the preparation of a vaccine for combating *Eimeria* infections, characterised in that said method comprises admixing a polypeptide according to claims 1-8, a DNA fragment according to claims 9-12, a Recombinant DNA fragment according to claim 13, a live recombinant carrier according to claim 14 or a host cell according to claim 15 with a pharmaceutically acceptable carrier.

24. Method for the preparation of a vaccine for combating *Eimeria* infections, characterised in that said method comprises admixing antibodies according to claim 21 with a pharmaceutically acceptable carrier.

25. Method for the detection of *Eimeria* parasites in poultry, characterised in that said method comprises incubating a DNA preparation isolated from poultry with a DNA fragment according to claims 9-12.

26. Method for the detection of antibodies against *Eimeria* parasites in poultry serum, characterised in that said method comprises incubating said serum with the hydrophilic polypeptide according to claims 1-8.